

WELL SUMMARY

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Location ID: BLM-25-455 Field Representative(s): D. Menzie, M. Canavan

Date Started: 09/19/91 Date Completed: 10/23/91

Northing: 226364.74 Easting: 407531.42

Brass Cap: 4619.42 Outer Casing: 4620.98 Inner Casing: 4621.64

Drilling Method: Mud/air Foam Rotary Drilling Contractor: Larjon Drilling Co.

Driller: J. Gower

Total Depth Borehole: 494' Total Depth Well Casing: 470.05'

Total Depth Surface Casing: 68'

Diameter Well Casing: 4" Diameter Surface Casing: 10"

Length of Bottom Blank: 5.10'

Type of Screen: extra strength 0.02 slot

Screen Interval: 454.95' to 464.95'

Water First Detected: not detected Water Level Open Borehole: 344.28' G.S. (10/2/91)
while drilling

Water Level Cased Borehole: 325.95' TOC (10/8/91)

Quik-Foam Use: 2 gal

Estimated Water Use: 7,050 gallons

Well Casing:

4in x 3ft SCD 40 PVC:
4in x 5ft SCD 40 PVC:
4in x 10ft SCD 40 PVC:
4in x 20ft SCD 40 PVC:
Total SCD 40 PVC pipe: ft

4in x 3ft SCD 5 SS pipe:
4in x 5ft SCD 5 SS pipe:
4in x 10ft SCD 5 SS pipe:
4in x 20ft SCD 5 SS pipe: 20
Total SCD 5 SS pipe: 397.5 ft

stock SS centralizers:
custom SS centralizers: yes
4"x2' SS locking riser:
4" SS locking cap: yes
4" SS female cap: yes
ASTM male adaptor:
Johnson male adaptor:

4in x 5ft SCD 10 SS pipe: 1
4in x 10ft SCD 10 SS pipe: 6
4in x 20ft SCD 10 SS pipe:
Total SCD 10 SS pipe: 65 ft
4in x 10ft ex strength screen: 10'

Well Completion:

100# bags #3 sand:	67½	bags
100# bags 16/40 sand:	2½	bags
100# bags 10/20 sand:		bags
100# bags 8/14 sand:		bags
100# bags 8/20 sand:	10	bags
94# bags cement:	112	bags
5 gal. buckets bentonite:		buckets
50# bentonite powder:	11	bags
Benseal:	1	bags

Surface Casing:

94# bags cement:	35	bags
50# bags bentonite powder:	4	bags
Grout:		bags

Pertinent Field Notes:

09/19/91 Mobilized mud rotary equipment to drill pad. Spudded and drilled pilot hole 0-3', quit to change out spud bit (12¼" tri-cone button bit). - Menzie

09/20/91 Drilled pilot hole 3' - 45' with 12¼" button bit. - Menzie

09/23/91 Replaced U-joint on main drive and rubber seals on mud pump. Drilled pilot hole from 45' - 68' and ream borehole to 16" from 0' - 55'. - Menzie

09/24/91 Finish reaming borehole, (55'-68') set surface casing and grout. - Menzie

09/25/91 Demobilized mud rotary equipment, steam clean and mobilize air/foam equipment to site. - Menzie

09/26/91 Drilled air/foam rotary from 68' - 260'; still above the predicted static water level and top of bedrock. - Menzie

09/27/91 Drilled air/foam rotary from 260' - 360'. No sign of formation water produced while drilling and no sign of top of bedrock. Volcanic-rich alluvium begins at ≈ 310'. - Menzie

- 09/30/91 Drilled 360' - 494'. No sign of water while drilling. Bedrock at \approx 365'. Crystal vitric tuff. Grades downward into andesite? or tuff?. - Canavan
- 10/01/91 Sounded bottom of borehole at 491.0' (G.S.). Measured water level in borehole at 374.50' (T.O.D.). Demobilize air/foam rotary equipment and call geophysical loggers. - Menzie
- 10/02/91 Ran full suite of geophysical logs. Sounded bottom of borehole at 486.92' G.S. and measured water level at 344.28' G.S. Loaded and steam clean materials and equipment for completion; installed 9' of filler sand at bottom of hole and pumped lower benseal plug (472' - 479'). - Menzie
- 10/03/91 Installed 467.45' of 4" SS casing with 10' extra strength screen, installed gravel pack and pumped upper benseal plug. - Menzie
- 10/04/91 Measured water level in casing at 301.92' (T.O.C.) and sounded top of upper plug at 440.08 (G.S.). Poured filler sand to 10 feet above water level (289.92 G.S.). Poured first load of grout. - Menzie
- 10/07/91 Measured water level at 324.10' (T.O.C.). Sounded top of first load of grout at 43'. Poured second load of grout and installed casing protector. - Menzie
- 10/08/91 Began initial development by surging and bailing. Installed 1½ HP submersible pump at 451.5' G.S. and continue development by pumping. - Menzie
- 10/09/91 - Continued development. - Menzie
10/22/91
- 10/23/91 Development complete. Pulled submersible pump and measured water level at 335.95' (T.O.C.). Turned well over to Lockheed for preliminary sampling. - Menzie